

RESPONSE TO THE OFFICE ACTION MAILED: December 27, 2006
Patent Application No. 09/734,432

1. **(currently amended)** A passive identification system, comprising:
 - a body part input means for dynamically generating an information signal impressed with characteristics of a body part generated directly from the body part and not read from other inputs, wherein the information signal includes one or more generation errors based on variances of the body part;
 - an index generation means for dynamically generating one or more indices from the information signal, wherein the one or more indices are generated by processing the information signal by selecting only a portion of the information signal such that generation errors based on variances of the body part are determined to be within a pre-determined error level within the selected portion of the information signal and generating the one or more indices using only the selected portion of the information signal, wherein the generated information signal and the one or more dynamically generated indices are not stored in the passive identification system and the one or more dynamically generated indices reveal no information about the identity of body part thereby providing perfect secrecy; and
 - a linking means to link via a trusted link at least one of said the dynamically generated indices to an identity for the body part stored in a secure database.

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2. **(previously presented)** The passive identification system of claim 1 wherein an index from the one or more indices of said index generation means is a function of a subset of data of the information signal.

3. **(previously presented)** The passive identification system of claim 1 wherein said index generation means comprises means to generate said one or more indices from different partial information from said selected portion of the information signal or transformation of said selected portion of the information signal.

4. **(previously presented)** The passive identification system of claim 1 wherein said information signal is an information signal impressed with characteristics of a body part including a human eye.

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5. (currently amended) A private biometric identification system, comprising:

 a body part input means for dynamically generating an information signal impressed with characteristics of a body part, wherein the information signal includes one or more generation errors based on variances of the body part and wherein the information signal is generated directly from the body part and not read from other inputs;

 an index generation means for dynamically generating one ore more indices from the information signal by selecting a only portion of the information signal such that generation errors based on variances of the body part are determined to be within a pre-determined error level within the selected portion of the information signal and generating the one or more indices using only the selected portion of the information signal, wherein the generated information signal and the one or more dynamically generated indices are not stored in the passive identification system and the one or more dynamically generated indices reveal no information about the identity of body part thereby providing perfect secrecy;

 an information hiding means for hiding at least one index to obtain transformed biometric templates;

 a transmission means for transmitting at least one transformed biometric template and index pair via a trusted link; and

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a verification means for verifying the transformed biometric template with template linked by associated index via a secure database.

6. (original) The private biometric system of claim 5 wherein said information signal is generated from multiple readings of said body part.

7. (previously presented) The private biometric identification system of claim 5 wherein said information hiding means includes a transformation of said information signal exclusive-ored with an index.

8. (previously presented) The private biometric identification system of claim 5 wherein said verification means further includes a hamming weight test.

9. (previously presented) The private biometric identification system of claim 5 wherein said verification means further includes validation for authorization.

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10. (currently amended) A private biometric information system, comprising:

a body part input means for generating an information signal impressed with characteristics of a body part to create a biometric and wherein the information signal is generated directly from the body part and not read from other inputs;

an index generation means for dynamically generating one ore more indices from the information signal by selecting a only portion of the information signal such that generation errors based on variances of the body part are determined to be within a pre-determined error level within the selected portion of the information signal and generating the one or more indices using only the selected portion of the information signal,
wherein the generated information signal and the one or more dynamically generated indices are not stored in the passive identification system and the one or more dynamically generated indices reveal no information about the identity of body part thereby providing perfect secrecy;

a transmission means for transmitting one or more indices from ~~an~~ the index generation means via a trusted link to a secure database, for transmitting a biometric template indexed by said one or more indices to accept points, and for transmitting transformed biometric templates generated by an information hiding means to an access point; and

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a verification means of said transformed biometric templates to determine
an identity for the body part via the secure database.

11. (previously presented) The private biometric identification system of claim 10 wherein said biometric template includes at least one said index composed with said information signal.

12. (previously presented) The passive identification system of Claim 10 wherein the index generation means includes applying error correcting codes to reduce errors in the information signal before dynamically generating one or more indices from the information signal.

13. (previously presented) The passive identification system of Claim 12 wherein the error correcting codes include computing roots of a polynomial $\sigma(z)$ over a Galois Field $GF(2^m)$.

14. (original) The passive identification system of Claim 1 wherein the index generation means includes dynamically generating one or more indices from the information signal by generating the one or more indices as hash values using a pre-determined hashing function on the information signal.

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15. (original) The passive identification system of Claim 1 wherein the one or more indices generated from the information signal cannot be used to reveal information about the characteristics of the body part included in the information signal.

16. (currently amended) A method for passive biometric identification, comprising:

dynamically generating an information signal impressed with characteristics of a body part, wherein the information signal includes one or more generation errors based on variances of the body part and wherein the information signal is generated directly from the body part and not read from other inputs;

selecting a portion of the information signal such that generation errors based on variances of the body part are determined to be within a pre-determined error level within the selected portion of the information signal;

processing the selected portion of the information signal to remove errors thereby creating a processed information signal;

dynamically generating one or more indices from the processed information signal, wherein the generated information signal and the one or more dynamically generated indices are not stored in the passive identification system and one or more indices dynamically generated from the information signal cannot directly be used to reveal information about the body part or an

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identity associated with the body part included in the processed information

signal thereby providing perfect secrecy;

obtaining a biometric template via a secure database using the one or more generated indices, wherein the biometric template includes an identity for the body part; and

verifying the identity for the body part in the biometric template using the one or more generated indices.

17. (previously presented) The method of Claim 16 wherein the step of processing the selected portion of the information signal to remove errors includes processing the information signal with error correcting codes by computing roots of a polynomial $\sigma(z)$ over a Galois Field $GF(2^m)$.

18. (previously presented) The method of Claim 16 wherein the step of dynamically generating one or more indices includes dynamically generating the one or more indices as hash values using a predetermined hashing function on the processed information signal.

19. (original) The method of Claim 16 wherein the one or more indices generated from the processed information signal cannot be used to reveal

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information about the characteristics of the body part included in the information signal

20. (original) The method of Claim 16 wherein the information signal is an information signal impressed with characteristics of a body part including a human eye.